

Study Guide

For use with pages 383–387

Exercises for Example 2

Solve the proportion.

5. $\frac{z}{16} = \frac{7}{8}$

6. $\frac{9}{6} = \frac{36}{y}$

7. $\frac{12}{p} = \frac{18}{12}$

8. $\frac{35}{10} = \frac{t}{2}$

EXAMPLE 3 Solving Using a Verbal Model

Your dog eats about 8 cups of dog food in 2 days. About how much food does your dog eat in 5 days?

Solution

Use a proportion. Let f represent the amount of food your dog eats in 5 days.

$$\frac{\text{Amount of food eaten}}{2 \text{ days}} = \frac{\text{Amount of food eaten}}{5 \text{ days}}$$

Write a verbal model.

$$\frac{8 \text{ cups}}{2 \text{ days}} = \frac{f \text{ cups}}{5 \text{ days}}$$

Substitute values.

$$\frac{8}{2} = \frac{f}{5}$$

Write the cross products.

$$40 = 2f$$

They are equal.

$$20 = f$$

Solve using mental math.

Answer: Your dog eats about 20 cups of food in 5 days.

Exercise for Example 3

9. You buy 2 DVD movies for \$56. At the same price, how many DVD movies can you buy with \$84?

EXAMPLE 4 Solving Using a Related Equation

Solve the proportion $\frac{y}{12} = \frac{45}{30}$.

$$30y = 540$$

Write the cross products. They are equal.

$$y = 540 \div 30$$

Write the related division equation.

$$y = 18$$

Divide.

Answer: The solution is 18.

Exercises for Example 4

Solve the proportion.

10. $\frac{4}{7} = \frac{8}{b}$

11. $\frac{49}{14} = \frac{z}{2}$

12. $\frac{36}{n} = \frac{24}{8}$

13. $\frac{p}{9} = \frac{25}{15}$